CLAIMS

1. A broadcast router, comprising:

a first reference input (146);

a second reference input (148);

a reference select circuit (144) coupled to said first and second reference inputs; and

at least one router component (134, 136, 138, 140 or 142) coupled to said reference select circuit (144);

wherein said reference select circuit (144): (1) passes a first signal applied to said first reference input (146) to said at least one router component (134, 136, 138, 140 or 142) as a first reference signal and a second signal applied to said second reference input (148) to said at least one router component (134, 136, 138, 140 or 142) as a second reference signal upon determining that said first and second signals are error-free; (2) passes said first signal to said at least one router component (134, 136, 138, 140 or 142) as said first reference signal and as said second reference signal upon determining that said first signal is error-free and said second signal is not error-free; and (3) passes said second signal to said at least one router component (134, 136, 138, 140 or 142) as said first reference signal and as said second reference signal upon determining that said first signal is not error-free and said second signal is error-free.

2. The apparatus of claim 1, wherein said at least one router component (134, 136, 138, 140 or 142) further comprises a router matrix (134).

3. The apparatus of claim 1, wherein said at least one router component (134, 136, 138, 140 or 142) further comprises a transmit expansion port (136).

4. The apparatus of claim 1, wherein said at least one router component (134, 136, 138, 140 or 142) further comprises at least one receive expansion port (138, 140, 142).

5. A broadcast router, comprising:

a router matrix (102a) having an input side (102a-1) and an output side (102a-2);

N data inputs coupled to said input side (102a-1) of said router matrix (102a), each one of said N data inputs configured for providing an input data stream to said router matrix (102a);

M data outputs coupled to said output side (102a-2) of said router matrix (102a), each one of said M data outputs configured for providing an output data stream from said router matrix (102a);

a first reference input (146) coupled to said input side (102a-1) of said router matrix (102a) said first reference input (146) configured for application of a first reference signal thereto; and

a second reference input (148) coupled to said input side (102a-1) of said router matrix (102a), said second reference input (148) configured for selective application of either a second reference signal or a redundancy of said first reference signal thereto.

6. The apparatus of claim 5, wherein said broadcast router further comprises a routing engine (134) coupled between said N data inputs and said M data outputs, said routing engine (134) configured to apply selected ones of said N data inputs to said M data outputs.

7. The apparatus of claim 6, wherein said broadcast router further comprises a reference select circuit (144) coupled between said first and second reference inputs (146 and 148) and said routing engine (134), said reference select circuit (144) configured to pass a first signal applied to said first reference input (146) to said routing engine (134) as a first reference signal and a second signal applied to said second reference input (148) to said routing engine (134) as a second reference signal upon determining that said first and second signals are error-free; (2) pass said first signal to said routing engine (134) as said first reference signal and as said second reference signal upon determining that said first signal is error-free and said second signal is not error-free; and (3) pass said second signal to said routing engine (134) as said first reference signal and as said second reference signal upon determining that said first signal is not error-free and said second signal is error-free.

8. A method for selectively providing multiple or redundant reference inputs to a broadcast router (102a), comprising:

providing a broadcast router (102a) having first and second reference inputs (146 and 148);

applying a first reference signal to said first reference input (146);

if a user desires that said broadcast router (102a) operate with redundant reference signals, applying said first reference signal to said second reference input (148); and

if said user desires that said broadcast router (102a) operate with multiple reference signals, applying a second reference signal to said second reference input (148).

9. The method of claim 8, and further comprising:

providing a broadcast router (102) having a reference select circuit (144) to which said first and second reference inputs (146, 148) are fed, said reference select circuit (144) configured to pass signals applied to said first reference input (146) to reference signal-demanding components (134, 136, 138, 140 or 142) of said broadcast router (102) as a first reference signal and signals applied to said second reference input (148) to said reference signal-demanding components (134, 136, 138, 140 or 142) of said broadcast router (102) as a second reference input upon determining that said signals applied to said first and second reference inputs (146, 148) are error-free; (2) pass signals applied to said first reference input (146) to said reference signal-demanding components (134, 136, 138, 140 or 142) of said broadcast router (102) as said first reference input and as said second reference input upon determining that signals applied to said first reference input (146) are error-free but signals applied to said second reference input (148) are not error-free; and (3) pass signals applied to said second reference input (148) to said reference signal-demanding components (134, 136, 138, 140 or 142) of said broadcast router (102) as said first reference input and as said second reference input upon determining that signals applied to said first reference input (146) are not error-free but signals applied to said second reference input (148) are error free.

10. The method of claim 9, wherein said reference signal-demanding components (134, 136, 138, 140 or 142) are reference signal-insensitive.